IT Unit 3

Topic 2

# Ch 2, Data Analytics: Drawing Conclusions, Part 1

**Data Sources,** p 91-107

1. Why is it important to know the source of data and its “chain of custody”?

* So we know if the data is accurate and reliable, because it is unwise to trust data if you do not know the source, because the data may have been affected by unreliable sources which causes the integrity/authenticity of the data to be reduced. Also when data has provenance it means the chain of custody is known and therefore making it more reliable.

1. List some easily accessible data sites.

* Australian bureau of data & statistics
* Wikipedia
* Data.gov.au

1. What are the advantages of using different data acquisition techniques?

* It gives you different types of data, including, quantitative, qualitative, primary and secondary. This in toll allows you to present a broad range of data on your MMOS, this improves accuracy and will give your MMOS authentic data to present to the viewers of the web page.

**Acquiring Data,** p 94

1. Distinguish between open & closed questions. List some strengths and weaknesses of both.

* Open questions do not limit the answer the respondent can provide, it is usually a general question where the respondent can give any answer, while closed questions force you to answer in a particular way because they only allow predetermined responses.

**Strengths of closed questions-**

* Quick and easy to respond
* Easy to collate and analyse a set of answers

**Strengths of open questions-**

* Doesn’t limit the response
* Allows the respondent to answer with feeling and emotion

**Weaknesses of closed questions-**

* Limits the response, prevents them from giving detail
* Occasionally none of the answers apply to a particular respondent

**Weaknesses of open questions-**

* Takes time to analyse and interpret
* Takes time to record, and takes up respondent’s time in answering

**Faults in questions,** p 96

1. List some types of questions that are not effective.

* Loaded questions- Which contain controversial or unjustified assumptions that may serve to support the hidden agenda of the person asking the question.
* Leading questions- Which directs the respondents to answer in certain desired directions

**Conducting interviews,** p 97

1. List some strengths and weaknesses with interviews as a technique for acquiring data.

**Strengths-**

* It allows the interviewer to pick up the interviewee’s tone of voice, body language and facial expressions and also the interviewee is also more likely to answer all the questions with quality answers.

**Weaknesses-**

* They can be time consuming and expensive and in some cases the interviewee might try to say the ‘right’ thing in the interviewer’s eyes, not giving their true heartfelt answer on the question.

**Observing subjects,** p 98

1. What are the strengths and weaknesses of observation?

**Strengths-**

* Like interviews, observations allow us to explore non-verbal communication in a way that other forms of data gathering do not. Being the observer also allows us to pick up on behaviours or actions that the subject wouldn’t report because of bias and also embarrassment.

**Weaknesses-**

* Takes a great deal of time, money and labour.
* It indicates what subjects do, but not why they do it.

**Surveys and questionnaires,** p 99

1. What are the advantages and disadvantages of these techniques?

Advantages-

* You can acquire a great deal of data quickly and cheaply.
* Responses can be easily analysed, interpreted and compared.

Disadvantages-

* Follow up questioning is nearly impossible
* Respondents may not bother completing lengthy questions
* Respondents are more likely to lie when it comes to sensitive or embarrassing questions

**Selecting representative samples**, p 104

1. What types of selection bias exist?

* **Timing**- Early termination of a trail when its results supported a desired conclusion, another example would be door knocking about the pension during business hours, when those are the people who are the ones who will be receiving the pension later in life and need to have an opinion on the issue.
* **Self-selection bias**- Choosing to participate in a survey self-selects a certain type of respondent, which can lead to bias in the results.
* **Sampling bias**- where by only a certain section of the population was included, resulting in a biased sample where not all members of the population have been included.

**Querying resources,** p 105

1. What is the role of built-in services in databases?

* To find and extract the relevant data you are looking for in the database.

1. Give examples of 2 types of queries.

* Query by example (QBE)
* Structured query language (SQL)

1. What is an application programming interface, (API)?

* It’s another method for querying resources, programmers create these as a gateway so other programs can interact with their software.

1. Why should the sources of data you use be acknowledged?

* So it’s clear that you’re not claiming another author’s work as your own
* So readers can find the original source to get more information
* Copyright ‘fair use’ legalities are observed
* Moral rights are observed